

# Why Research on Gas Interchangeability?

**Ted A. Williams**

**Director, Codes, Standards & Technical Support**

**AMERICAN GAS ASSOCIATION**

**USA**

**Natural Gas Interchangeability**

**Stakeholder Advisory**

**Committee Meeting**

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# **Drivers for Study and Implementation of Gas Interchangeability Requirements**

- 1.) In the 1930s, the introduction of natural gases and issues of interchangeability with locally produced town gases.**
- 2.) In the 1940s, development of peakshaving supply approaches, including manufactured gases and propane-air system sendout, and interchangeability with base load supplies.**
- 3.) In the 1970s, introduction of imported LNG in local market areas and interchangeability with domestic supplies.**
- 4.) Present, renewed interest in imported LNG locally and nationally, changes in processing of domestically produced gas, and interchangeability with traditional domestic supplies.**

# **Federal Regulation as it May Apply to Interchangeability**

- **Federal Energy Regulatory Commissions (FERC)  
– Regulation of Interstate Sales of Natural Gas  
(among the 50 States) – The Natural Gas Act**
- **Authority under The Natural Gas Act Extends to Imported LNG**
- **Standard of “Fair and Reasonable” for Market Regulation**
- **Regulation of Tariff Provisions – Suppliers and ‘Consumers’**

# FERC Policy Statement on Gas Quality and Interchangeability

- Issued June 15, 2006
- “Five Principles”
  - Only Interstate Pipeline Tariffs Provisions Can be Enforced
  - Tariffs Should be Flexible to Balance Supply and Safety
  - Pipelines and Customers Should Develop Requirements on Technical Specifications
  - The NGC+ Interim Guidelines Should Serve as a Starting Point
  - If Disputes are Unresolved, They Can be Brought Before FERC

# Potential Implications of FERC Policy Statement for Gas Utilities and Customer

- **Balance of Supply and Consumer Safety**
  - “...to allow pipelines to balance safety and reliability concerns with the importance of maximizing supply...” (PL04-3-000, Sec. 2)
- **Implementation of Gas Interchangeability Specifications**
  - “Pipelines that wish to add provisions to their tariffs...are encouraged to use the interim guidelines...” (PL04-3-000, Sec. 37)
- **A Pipeline-by-Pipeline Approach**
- **Consideration of NGC+ Interim Guidelines**
- **Criticality of Tariff Proceedings**
- **FERC Compliant Procedures and State Regulatory Actions for Remedy**

# NGC+ White Paper and Interim Guidelines

- **Interim Guidelines: Two to Three Year Window**
- **Research Needs Associated with “Data Gaps”**
  - “...the Work Group found that there are gaps in the data regarding regional characteristics as well as the specific limitations and tolerances for end use equipment. The Work Group recommended the adoption of a transition period to gather and analyze additional data and conduct more testing to provide a basis for establishing more definitive guidelines. Specific gaps that must be addressed during this transition period form an integral part of this recommendation... The interim period for use of these guidelines depends upon the filling of major data gaps for end uses.”

“White Paper on Natural Gas Interchangeability and Non-Combustion End Use,” page 24.

# NGC+ Research Subgroup

- **Further Development of “White Paper” Research Recommendations**
- **Seek Out Research Support to Meet Research Priorities**
  - **DOE Office of Fossil Energy Should Lead Federal Efforts**
  - **DOE Should Establish Research Steering Committee**
  - **Top Priority Should be Gas Turbines for Power Generation and Industrial Applications**
  - **Next, Industrial and Heavy Commercial Burners**
  - **Stationary and Vehicle Engines**
  - **Residential and Commercial Appliances**
  - **Analysis of Future Gas Compositions and Specifications**

# Federal Government Interaction on Research

- **Met with DOE Office of Fossil Energy, December 2005**
- **Outcomes**
  - **DOE Would Pursue Studies with National Energy Technology Laboratory (NETL) Independently**
  - **FERC Is the Client for DOE-Funded Work**
  - **Unclear to What Extent Research Subgroup Recommendations Would be Addressed**
  - **Two Program Reviews of NETL Program with NGC+**

# NETL Final Report

**LNG Interchangeability/Gas Quality: Results of the National Energy Technology Laboratory's Research for the FERC on Natural Gas Quality and Interchangeability**

**DOE/NETL-2007/1290**



**Prepared by  
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# Current Status

- **NGC+ Currently Inactive**
- **Diverse Research Activities and Advocacy Effort**
- **CEC/PIER Projects Represent a Key Opportunity to Address Identified Research Priorities**